

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1 (currently amended): Method for measuring a  
2 talking quality of a communication link in a  
3 communications network, the method comprising:  
4 a main step of subjecting a degraded speech signal  
5  $s'(t)$  with respect to a reference speech signal  $s(t)$  to an  
6 objective measurement technique for measuring a perceptual  
7 quality of speech signals, and producing a quality signal  
8  $q$  which represents an estimated value concerning the  
9 talking quality degradation;  
10 the degraded speech signal comprising a returned  
11 signal  $r(t)$ ;  
12 in which the objective measurement technique  
13 comprises a step of modelling masking effects in  
14 consequence of noise present in the returned signal  
15 comprising the determination of a dynamic threshold noise  
16 level, by determining a successive local minimum values of  
17 the degraded speech signal  $s'(t)$ .

1 Claim 2 (original): Method according to claim 1, in which  
2 the reference speech signal  $s(t)$  comprises a silence  
3 period and the threshold noise level is determined in the  
4 part of the degraded speech signal  $s'(t)$  corresponding to  
5 the silence period in the reference speech signal  $s(t)$ .

1 Claim 3 (original): Method according to claim 2, in which  
2 the silence period is provided at the start of the  
3 reference speech signal  $s(t)$ .

1 Claim 4 (original): Method according to claim 3, in which  
2 the silence period has a duration of at least 0.5 sec,  
3 more preferably at least 0.9 sec.

1 Claim 5 (original): Method according to claim 1, in which  
2 the threshold noise level is estimated as local minimum  
3 values of successive parts of the degraded speech  
4 signal  $s'(t)$ .

1 Claim 6 (original): Method according to claim 1, in which  
2 the threshold noise level is estimated as the local  
3 minimum value of the degraded speech signal  $s'(t)$  in a  
4 predefined value range.

1 Claim 7 (previously presented): Method according to  
2 claim 1, in which the main step comprises:  
3 a first processing step of processing the degraded  
4 speech signal  $s'(t)$  and generating a first representation  
5 signal  $R'(t,f)$ ;  
6 a second processing step of processing the reference  
7 speech signal  $s(t)$  and generating a second representation  
8 signal  $R(t,f)$ ;  
9 a step of subtracting the first representation signal  
10 from the second representation signal as to produce a  
11 difference signal  $D(t,f)$ ;  
12 a first substep of producing an estimated value  $N_e$  of  
13 the loudness of the noise present in the returned signal;  
14 and

15           a second substep of noise suppression ~~(42)~~ carried  
16       out on the difference signal using said produced estimated  
17       value  $N_e$  as to produce the modified difference signal  
18        $D'(t,f)$ ; and  
19           a step of integrating the modified difference signal  
20        $D'(t,f)$  with respect to frequency and time as to produce  
21       the quality signal  $q$ .

1       Claim 8 (currently amended): Device for measuring a  
2       talking quality of a communication link in a  
3       communications network, the device comprising:  
4           measurement means connected to the communication  
5       link, the measurement means being arranged to subject a  
6       degraded speech signal  $s'(t)$  with respect to a reference  
7       speech signal  $s(t)$  to an objective measurement technique  
8       for measuring a perceptual quality of speech signals, and  
9       producing a quality signal ( $q$ ) which represents an  
10      estimated value concerning the talking quality  
11      degradation;

12           the degraded speech signal comprising a returned  
13      signal  $r(t)$ ;

14           in which the measurement means are arranged to  
15      execute the objective measurement technique by modelling  
16      masking effects in consequence of noise present in the  
17      returned signal in which the objective measurement  
18      technique comprises the determination of a dynamic  
19      threshold noise level by determining a successive local  
20      minimum values of the degraded speech signal  $s'(t)$ .

1       Claim 9 (original): Device according to claim 8, in which  
2       the reference speech signal  $s(t)$  comprises a silence  
3       period and the measurement means are further arranged to

4 determine the threshold noise level in the part of the  
5 degraded speech signal  $s'(t)$  corresponding to the silence  
6 period in the reference speech signal  $s(t)$ .

1 Claim 10 (original): Device according to claim 9, in which  
2 the silence period is provided at the start of the  
3 reference speech signal  $s(t)$ .

1 Claim 11 (original): Device according to claim 10, in  
2 which the silence period has a duration of at least  
3 0.5 sec, more preferably at least 0.9 sec.

1 Claim 12 (original): Device according to claim 8, in which  
2 the measurement means are arranged to estimate the  
3 threshold noise level as local minimum values of  
4 successive parts of the degraded speech signal  $s'(t)$ .

1 Claim 13 (original): Device according to claim 8, in which  
2 the measurement means are arranged to estimate the  
3 threshold noise level as the local minimum value of the  
4 degraded speech signal  $s'(t)$  in a predefined value range.

1 Claim 14 (previously presented): Device according to  
2 claim 8, in which the device comprises:

3 first processing means for processing the degraded  
4 speech signal  $s'(t)$  and generating a first representation  
5 signal  $R'(t,f)$ , the first representation signal  $R'(t,f)$   
6 being a representation signal of a signal combination of  
7 the talker speech signal and the returned signal;

8 second processing means for processing the talker  
9 speech signal  $s(t)$  and generating a second representation  
10 signal  $R(t,f)$ ;

11 combining means for combining the first and second  
12 representation signals as to produce said output signal  $q$ ,  
13 the combining means including

14 subtracting means for subtracting the first  
15 representation signal from the second representation  
16 signal as to produce a difference signal  $D(t,f)$ ;

17 modelling means for modelling the masking  
18 effects carried out on the difference signal as to produce  
19 a modified difference signal, including means ~~(41)~~ for  
20 producing an estimated value  $N_e$  of the loudness of the  
21 noise present in the returned signal, and means ~~(42)~~ for  
22 carrying out a noise suppression on the difference signal  
23 using said produced estimated value  $N_e$ , and for producing  
24 the modified difference signal  $D'(t,f)$ ; and

25 integrating means for integrating the modified  
26 difference signal with respect to frequency and time as to  
27 produce the quality signal  $q$ .